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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/850,314	05/07/2001	Jheroen P. Dorenbosch	PF02063NA	1691

23447 7590 07/26/2004

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EXAMINER	
DANIEL JR, WILLIE J	

ART UNIT	PAPER NUMBER
2686	5

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/850,314	DORENBOSCH, JHEROEN P.	
	Examiner	Art Unit	
	Willie J. Daniel, Jr.	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fitch et al. (hereinafter Fitch) (US 6,321,092) in view of Walsh et al. (hereinafter Walsh) (US 6,603,977).

Regarding **Claim 1**, Fitch discloses of the features

obtaining a first location information from the target wireless station (102) which reads on the claimed "MS" using the wireless communication system link and storing the first location information in a location monitor (LM '214') which reads on the claimed "location server" of the system (200) (see col. 5, lines 57-64; col. 6, lines 9-18; col. 7, lines 30-32,42-46; Fig. 1), where the wireless telecommunications network (100) has a location-based service system (200) which outputs the location of the wireless station using raw location that is collected and aggregated and stored in the cache;

storing location information corresponding to the target MS (102) in a plurality of location finding equipment (LFE "104") which reads on the claimed "reporting devices" (see col. 7, lines 30-32,42-44; col. 8, lines 34-43; Fig. 2), where each LFE collects location information of the wireless station to be stored in the LC (220) of the LM (214); and

defining a subset of the plurality of reporting devices (104, 202) (see col. 10, line 44-48; col. 10, line 58 - col. 11, line 3; Figs. 1-2);

eliciting the location information corresponding to the target MS (102) from the subset (see col. 11, line 58 - col. 12, line 6; Fig. 7), where the LFEs (202) provide location information of the wireless station; and

combining portions of the elicited location information corresponding to the target MS (102) to determine the location of the target MS (102) (see col. 6, line 40 - col. 7, line 29; col. 7, lines 30-32,42-46; col. 8, lines 34-43; Figs. 3A-E), where the system collect data of the location of the wireless station to determine the location of the wireless station. Fitch fails to disclose the feature of communicating with the target MS using the short-range wireless link; upon failing to obtain location information from the target MS using the long-range wireless communication system link. However, the examiner maintains that the features of communicating with the target MS using the short-range wireless link; upon failing to obtain location information from the target MS using the long-range wireless communication system link was well known in the art, as taught by Walsh.

In the same field of endeavor, Walsh discloses the features of communicating with the target wireless communication device (104) which reads on the claimed "MS" using the short-range wireless link (see col. 8, lines 42-51; col. 10, lines 41-53; Fig. 2)

upon failing to obtain location information from the target MS (104) using the long range wireless communication system link (see col. 8, lines 21-30,38-53; col. 13, lines 35-40; col. 11, lines 23-41; Fig. 3), where the system is coupled to a long range system (e.g., GPS) and short range (e.g., Bluetooth) to locate the MS. The short range is used in locations (e.g.,

facilities, hallways, or elevators) where the long-range system does not adequately perform in which the failing of the long-range system would be obvious.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Fitch and Walsh to have the feature of communicating with the target MS using the short-range wireless link; upon failing to obtain location information from the target MS using the long range wireless communication system link, in order for the location of the wireless communication device to be tracked using a short range wireless channel, as taught by Walsh.

Regarding **Claim 2**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 1), in addition Fitch further discloses the method of claim 1, wherein "the location of each of each of the plurality of reporting devices (202, 204, 206) is known to at least one of the reporting device (204, 206, 208) and the location server (214)," as evidenced by " Some types of LFEs include LFE equipment in the handset. Examples include certain GPS and TDOA systems.....Still other LFE systems employ a network of dedicated LFE equipment that is overlayed relative to the wireless network." and "a location-based services system **200** in accordance with the present invention. An important aspect of the present invention relates to the operation of the LM **214** to receive inputs from multiple LFEs **202**, **204** and **206**." (see col. 5, lines 29-42; col. 6, lines 29-32; Fig. 2).

Fitch further discloses, "the actual uncertainty regarding the location of a wireless station located in the illustrated cell sector is defined by the coverage area **300**. The location determination output from a cell/sector LFE is therefore effectively defined by the

coordinates of the coverage area **300**. (see col. 6, lines 52-57; Fig. 3) The radius of the cell area defines a predetermined distance from the target MS, and directly reads on the claim of "the defining step comprises the step of defining the subset to include the plurality of reporting devices (202, 204, 206) whose locations are less than a predetermined distance from the target MS, as estimated based upon the first location information."

Regarding **Claim 3**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 1), in addition Fitch further discloses the method of claim 1, wherein the defining step comprises the step of

"defining the subset to include all the plurality of reporting devices (202, 204, 206) within range of one of a cell and an area, in which the target MS was last located." As evidenced by Fitch, "the actual uncertainty regarding the location of a wireless station located in the illustrated cell sector is defined by the coverage area **300**. The location determination output from a cell/sector LFE is therefore effectively defined by the coordinates of the coverage area **300**." directly reads on this claim (see col. 6, lines 52-57; Fig. 3)

Regarding **Claim 4**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 1), in addition Fitch further discloses the method of claim 1, wherein the defining step comprises the steps of:

"defining a time period;" As disclosed by Fitch, "The associated method includes the steps of receiving a first LFE input including first location information and first corresponding time information for a particular wireless station, receiving a second LFE input including second location information and second time information for the wireless

station, and using the first and second inputs to derive tracking information for the wireless station." directly reads on this portion of the claim. (see col. 3, lines 52-59)

Fitch further discloses, "the specification may include one or more of the following: the timeliness of the location information (e.g., not older than [date stamp parameter])..... Alternatively, the request may specify the use of the most recent available information....etc." (see col. 11, lines 9-19) These selection rules are used to define the applicable subset of reporting devices, and directly reads upon the claim of "defining the subset to be all reporting devices (202, 204, 206) which obtained location information corresponding to the target MS during this time period."

Regarding **Claim 5**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 1), in addition Fitch further discloses the method of claim 1, wherein "the defining step is performed in a portion of the wireless communication system (200) exclusive of the plurality of reporting devices (202, 204, 206), " As disclosed by Fitch, "a WLI (wireless location interface) **224** that allows wireless location applications **226**, **228** and **230** .....prompt one or more LFEs **202**, **204** and/or **206** to initiate a location determination" and "The WLI **224** ..... allows the applications to include a specification with a location request regarding the desired location information. (see col. 10, lines 59-63; col. 11, lines 9-11) read directly on the claim.

Regarding **Claim 6**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 1), in addition Fitch further discloses the method of claim 1, wherein "the defining step is performed in the plurality of reporting devices (202, 204, 206) according to a set of subset-selection rules." As disclosed by Fitch a subset of

reporting devices are selected based on the following subset-selection rules, "the specification may include one or more of the following: the timeliness of the location information (e.g., not older than [date stamp parameter])..... Alternatively, the request may specify the use of the most recent available information....etc." (see col. 11, lines 9-19)

Regarding **Claim 7**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 1), in addition Fitch further discloses the method of claim 1, wherein the eliciting step comprises the steps of:

"identifying the target MS to the subset;" which is disclosed by Fitch as "Invoke message may include Wireless Station ID" (see col. 11, line 65)

Fitch further discloses, "FIG. 7 illustrates a sequence of messages associated with a forced LFE access..... The LFC then sends a One-time Measurement Request to the LFE to instruct the LFE to obtain location information for the wireless station of interest.....The LFE then transmits Location Measurement Information to the LFC." (see col. 11, line 58 - col. 12, line 17; Fig. 7) This part of the eliciting step directly reads on the part of the claim "requesting the subset to report the location information corresponding to the target MS."

Regarding **Claim 8**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 1), in addition Fitch further discloses the method of claim 1, wherein

"the location information includes a time stamp identifying when the target MS was at a reported location," As disclosed by Fitch, "determined by way of the time stamps associated with the location information" (see col. 8, lines 46-47) directly reads on this part of the claim.

Fitch further discloses, "The illustrated LM **214** also includes a tracking facility.....Moreover, interpolation and extrapolation techniques can be employed to determine location at times between measurements or in the future.....that the information stored in the LC **220** may include wireless station identifiers, locations, uncertainties, confidence levels, travel speeds, travel directions, times and other parameters." and "the velocity facility **216**, ...to use raw data for velocity or tracking calculations.....more accurately reflect station movement." (see col. 10, lines 19-41; col. 10, lines 44-57) which directly read on the part of the claim "wherein the combining step comprises the step of extrapolating a current location of the target MS from a last reported location and time and at least one of another reported location and time, and a reported velocity."

Regarding **Claim 9**, Fitch discloses a method in a wireless communication system (200) for determining a location of a mobile station according to **claim 1**. However, Fitch fails to specifically disclose the steps of "communicating between a reporting device and the target MS over a short-range link; and storing the location of the reporting device as the location of the target MS." However, the use of short-range links for communication between wireless devices, and storing the location of the reporting device as the location of the target MS was well known in the art, as taught by Walsh.

Walsh further discloses the steps of: "communicating between a reporting device (102) and the target MS (104) over a short-range link;" as "The communication channel **124** between the location information system **102** and the wireless communication device **104** is preferably a radio frequency communication channel operating at 2.4 GHz according to the Bluetooth technology standard ..... Alternatively, the communication channel **124** may

include, without limitation, an infrared communication channel..... " (see col. 9, line 64 - col. 10, line 16; Figs. 1, 2); and

"storing the location of the reporting device (102) as the location of the target MS (104)" is disclosed by Walsh as "FIG. **2** illustrates a block diagram of the location information system **102** ..... includes a controller **200** .....The controller **200** receives location information representing a plurality of location descriptions.....sends location information to the wireless communication device **104** present in a predetermined area....over a short-range wireless communication channel, such as a Bluetooth channel....." (see col. 10, lines 33-53; Fig. 2).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Fitch, to combine the steps of determining a location of a mobile station, with the short-range communication techniques of Walsh, for the purpose of adding an additional way to contact and determine the position of the target MS, while conserving valuable radio frequency spectrum.

Regarding **Claim 10**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 1), in addition Fitch further discloses the method of claim 1, further comprising in a reporting device (202, 204, 206) the steps of:

"receiving a request to report the location information corresponding to the target MS" Fitch discloses with regard to this portion of the claim:

"FIG. 7 illustrates a sequence of messages associated with a forced LFE access..... The LFC then sends a One-time Measurement Request to the LFE to instruct the LFE to obtain location information for the wireless station of interest.....The LFE then

transmits Location Measurement Information to the LFC." (see col. 11, line 58 - col. 12, line 17; Fig. 7) This step directly reads on the part of the claim "receiving a request to report the location information corresponding to the target MS;"

Fitch further discloses "In order to obtain a location measurement, it is generally necessary to cause the wireless station to transmit an RF signal for the detection by the LFE (202, 204, 206).....In response, a system access signal is transmitted by the wireless station and detected by the LFE (202, 204, 206). The LFE (202, 204, 206) then transmits Location Measurement Information to the LFC (208, 210, 212)." (see col. 12, lines 6-17) which directly reads on the part of the claim "attempting to contact the target MS to determine the location of the target MS, in response to receiving the request.

Regarding **Claim 11**, Fitch discloses a location server (214) in a wireless communication system (100) for determining a location of a mobile station (MS) (102), the location server comprising:

a LFC (208) which reads on the claimed "communication interface" (see col. 7, lines 30-32; col. 11, lines 60-64; Figs. 2, 6-7);

a processor coupled to the communication interface (208) for controlling the communication interface (208) to communicate, via a long-range wireless communication system link, with a target MS (102) and with a plurality of reporting devices (202) to obtain location information corresponding to the target MS (102) (see col. 10, line 58 - col. 11, line 3; col. 11, lines 60-64; Figs. 1-2), where location monitoring system (214) tracks the location of the wireless station using wireless location application in which the processor would be obvious for location tracking of the wireless station; and

a database (220) coupled to the processor for storing the location information, wherein the processor is programmed to, (see col. 8, lines 34-55; col. 10, lines 19-41; Fig. 2), in which the processor would be obvious,

define a subset of the plurality of reporting devices (104, 202) (see col. 10, line 44-48; col. 10, line 58 - col. 11, line 3; Figs. 1-2);

elicit location information corresponding to the target MS from the subset (see col. 10, lines 61-63; col. 11, line 58 - col. 12, line 6; Fig. 7), where the LFEs (202) provide location information of the wireless station; and

combine portions of the elicited location information corresponding to the target to determine the location of the target MS (102) (see col. 6, line 40 - col. 7, line 29; col. 7, lines 30-32,42-46; col. 8, lines 34-43; Figs. 3A-E), where the system collect data of the location of the wireless station to determine the location of the wireless station. Fitch fails to disclose having the features upon failing to obtain location information from the target MS using the long-range wireless communication system link; the location information being obtained by the subset using a short-range wireless link. However, the examiner maintains that the features upon failing to obtain location information from the target MS using the long-range wireless communication system link; the location information being obtained by the subset using a short-range wireless link was well known in the art, as taught by Walsh.

Walsh further discloses the features upon failing to obtain location information from the target MS (104) using the long-range wireless communication system link (see col. 8, lines 21-30,38-53; col. 13, lines 35-40; col. 11, lines 23-41; Fig. 3), where the system is coupled to a long range system (e.g., GPS) and short range (e.g., Bluetooth) to locate the MS.

The short range is used in locations (e.g., facilities, hallways, or elevators) where the long-range system does not adequately perform in which the failing of the long-range system would be obvious;

the location information being obtained by the subset using a short-range wireless link (see col. 8, lines 42-53; col. 10, lines 41-53; Figs. 2), where location information is gathered via the short-range wireless link that communicates with the wireless communication device (104) through the wireless communications units (206) which is a subset device using Bluetooth.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Fitch and Walsh to have the features upon failing to obtain location information from the target MS using the long-range wireless communication system link; the location information being obtained by the subset using a short-range wireless link, in order for the location of the wireless communication device to be tracked using a short range wireless channel, as taught by Walsh.

Regarding **Claim 12**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 11), in addition Fitch further discloses the location server (214) of claim 11, wherein

"the location of each of the plurality of reporting devices (202, 204, 206) is known to at least one of the reporting device (202, 204, 206) and the location server (214)," is disclosed by Fitch as " Some types of LFEs include LFE equipment in the handset. Examples include certain GPS and TDOA systems.....Still other LFE systems employ a network of dedicated LFE equipment that is overlayed relative to the wireless network." and "a location-based

services system **200** in accordance with the present invention. An important aspect of the present invention relates to the operation of the LM **214** to receive inputs from multiple LFEs **202**, **204** and **206**." (see col. 5, lines 29-42, col. 6, lines 29-32; Fig. 2).

"the processor (226, 228, 230) is further programmed to define the subset to include the plurality of reporting devices (202, 204, 206) whose locations are less than a predetermined distance from the target MS, as estimated based upon the location information" Fitch discloses "the actual uncertainty regarding the location of a wireless station located in the illustrated cell sector is defined by the coverage area **300**. The location determination output from a cell/sector LFE is therefore effectively defined by the coordinates of the coverage area **300**. (see col. 6, lines 52-57; Fig. 3) The radius of the cell area defines a predetermined distance from the target MS, and directly reads on the claim of defining "the subset to include the plurality of reporting devices (202, 204, 206) whose locations are less than a predetermined distance from the target MS, as estimated based upon the location information."

Regarding **Claim 13**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 11), in addition Fitch further discloses the location server (214) of claim 11, wherein

"the processor (226, 228, 230) is further programmed to define the subset to include all the plurality of reporting devices (202, 204, 206) within range of one of a cell and an area, in which the target MS was last located." As evidenced by Fitch "the actual uncertainty regarding the location of a wireless station located in the illustrated cell sector is defined by the coverage area **300**. The location determination output from a cell/sector LFE is therefore

effectively defined by the coordinates of the coverage area **300**." (see col. 6, lines 52-57; Fig. 3) directly reads on this claim.

Regarding **Claim 14**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 11), in addition Fitch further discloses the location server (214) of claim 11, wherein the processor (226, 228, 230) is further programmed to:

"identify the target MS to the subset (202, 204, 206);" is disclosed by Fitch as "Invoke message may include Wireless Station ID" (see col. 11, line 65)

"request the subset (202, 204, 206) to report the location information corresponding to the target MS." as disclosed by Fitch "FIG. 7 illustrates a sequence of messages associated with a forced LFE access..... The LFC then sends a One-time Measurement Request to the LFE to instruct the LFE to obtain location information for the wireless station of interest.....The LFE then transmits Location Measurement Information to the LFC." (see col. 11, line 58 - col. 12, line 17; Fig. 7) This part of the eliciting step directly reads on the part of the claim "requesting the subset to report the location information corresponding to the target MS."

Regarding **Claim 15**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 11), in addition Fitch further discloses the location server (214) of claim 11, wherein:

"the location information includes a time stamp identifying when the target MS was at a reported location" As disclosed by Fitch "determined by way of the time stamps associated with the location information" (see col. 8, lines 46-47) directly reads on this part of the claim.

Fitch further discloses "The illustrated LM **214** also includes a tracking facility.....Moreover, interpolation and extrapolation techniques can be employed to determine location at times between measurements or in the future.....that the information stored in the LC **220** may include wireless station identifiers, locations, uncertainties, confidence levels, travel speeds, travel directions, times and other parameters." and "the velocity facility 216, ...to use raw data for velocity or tracking calculations.....more accurately reflect station movement." (see col. 10, lines 19-41; col. 10, lines 44-57) which directly read on the part of the claim "wherein the processor is further programmed to extrapolate a current location of the target MS from a last reported location and time and at least one of another reported location and time, and a reported velocity."

Regarding **Claim 16**, Fitch discloses of a reporting device (202) in a wireless communication system (100) for determining a location of a mobile station (MS) (102), the reporting device (202) comprising:

a processor for controlling the reporting device (202), the processor comprising a memory (see col. 7, lines 30-44; col. 10, line 58 - col. 11, line 3; col. 11, lines 60-64; Figs. 1-2), where LFE (202) monitor the location of the wireless station (102) using wireless location application in which the processor would be obvious for location tracking of the wireless station; and

communicate the elicited location information corresponding to the target MS (102) to the location server (214) when the reporting device (202) is a member of the subset (see col. 8, lines 34-43; col. 10, lines 61-63; col. 11, line 58 - col. 12, line 6; Figs. 2, 7), where the LFEs (202) provide location information of the wireless station. Fitch fails to disclose

having the features a transceiver coupled to the processor for cooperating with the processor to communicate with a target MS via a short-range wireless link, for obtaining and storing in a memory location information corresponding to the target MS; wherein the processor is programmed to cooperate with the transceiver to: receive, on a long-range wireless communication system link, from a location server of the wireless communication system when the location service has failed to obtain location information from the target MS using the long-range a wireless communication system link, a message eliciting the location information corresponding to the target MS from a subset of a plurality of reporting devices. However, the examiner maintains that the features a transceiver coupled to the processor for cooperating with the processor to communicate with a target MS via a short-range wireless link, for obtaining and storing in a memory location information corresponding to the target MS, wherein the processor is programmed to cooperate with the transceiver to:
receive, on a long-range wireless communication system link, from a location server of the wireless communication system when the location service has failed to obtain location information from the target MS using the long-range a wireless communication system link, a message eliciting the location information corresponding to the target MS from a subset of a plurality of reporting devices was well known in the art, as taught by Walsh.

Walsh further discloses the features a transceiver (206) coupled to the controller (200) which reads on the claimed "processor" for cooperating with the processor (200) to communicate with a target MS (104) via a short-range wireless link, for obtaining and storing in a memory (204) location information corresponding to the target MS (104) (see col. 8, lines 32-38,41-53; col. 11, lines 20-22; Fig. 2, 7),

wherein the processor (200) is programmed to cooperate with the transceiver (206) to:

receive, on a long-range wireless communication system link, from a location server of the wireless communication system when the location service has failed to obtain location information from the target MS (104) using the long-range a wireless communication system link, a message eliciting the location information corresponding to the target MS from a subset of a plurality of reporting devices (206) (see col. 8, lines 21-30,38-53; col. 13, lines 35-40; col. 11, lines 23-41; Figs. 1-3, 5-6), where the system is coupled to a long range system (e.g., GPS) and short range (e.g., Bluetooth) to locate the MS. The short range is used in locations (e.g., facilities, hallways, or elevators) where the long-range system does not adequately perform in which the failing of the long-range system and a message for location information would be obvious to locate the wireless communication device

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Fitch and Walsh to have the features a transceiver coupled to the processor for cooperating with the processor to communicate with a target MS via a short-range wireless link, for obtaining and storing in a memory location information corresponding to the target MS, wherein the processor is programmed to cooperate with the transceiver to:

receive, on a long-range wireless communication system link, from a location server of the wireless communication system when the location service has failed to obtain location information from the target MS using the long-range a wireless communication system link, a message eliciting the location information corresponding to the target MS from a subset of

a plurality of reporting devices, in order for the location of the wireless communication device to be tracked using a short range wireless channel, as taught by Walsh.

Regarding **Claim 17**, Fitch discloses everything claimed as applied above (see **claim 16**) for a reporting device (202, 204, 206) in a wireless communication system (200). Fitch further discloses, "a location determining element coupled to the processor for determining the location of the reporting device (202, 204, 206)" as evidenced by "each of the LFEs 202, 204 or 206 outputs location information.....The nature of this "raw" LFE (202, 204, 206) output depends in part on the type of LFE involved. For example, in the case of a cell sector system the output may be a sector identifier or coordinates; in the case of a TOA system, the output may be a sector identifier or coordinates and a radius; in an AOA system the output may be angular measurements ..... in TDOA systems the output .....; and in a GPS systems the output may be geographic coordinates." Thus it is evident that the type of location information outputted by the LFE is dependent on the type of location determining element that is coupled to the processor of LFE. (see col. 7, lines 30-41).

However, Fitch fails to specifically disclose a reporting device wherein the processor is further programmed to:

"control the transceiver to limit communication range between the reporting device and the target MS to that of a short-range link;

communicate with the target MS; and

store the location of the reporting device as the location of the target MS." However, the use of short-range links for communication between wireless devices, and storing the

location of the reporting device as the location of the target MS was well known in the art, as taught by Walsh.

Walsh further discloses the steps of: "control the transceiver to limit communication range between the reporting device (102) and the target MS (104) over a short-range link;" as "The communication channel **124** between the location information system **102** and the wireless communication device **104** is preferably a radio frequency communication channel operating at 2.4 GHz according to the Bluetooth technology standard ..... Alternatively, the communication channel **124** may include, without limitation, an infrared communication channel..... " and "The short-range communications circuit 304 receives location information from the location information system **102** over a short-range wireless communication channel **124** ..... The controller (300) coupled to each of the short-range communication circuit **304** and the long-range communication circuit **302**, controls each of short-range communication circuit **304** and the long-range communication circuit **302**. (see col. 9, line 64 - col. 10, line 16; col. 12, line 65 - col. 13, line 39; Figs. 1-3); and

"storing the location of the reporting device (102) as the location of the target MS (104)" is disclosed by Walsh as "FIG. **2** illustrates a block diagram of the location information system **102** ..... includes a controller **200** .....The controller **200** receives location information representing a plurality of location descriptions.....sends location information to the wireless communication device **104** present in a predetermined area....over a short-range wireless communication channel, such as a Bluetooth channel....." (see col. 10, lines 33-53; Figure 2).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Fitch, to combine the steps of determining a location of a mobile station, with the short-range communication techniques of Walsh, for the purpose of adding an additional way to contact and determine the position of the target MS, while conserving valuable radio frequency spectrum.

Regarding **Claim 18**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 16), in addition Fitch further discloses the reporting device (202, 204, 206) of claim 16, wherein the processor is further programmed to:

"receive a request to report the location information corresponding to the target MS;" is disclosed by Fitch as "The LFC (208, 210, 212) then sends a One-time Measurement Request message to the LFE (202, 204, 206) to instruct the LFE (202, 204, 206) to obtain location information for the wireless station of interest." (see col. 11, line 67 - col. 12, line 3)

"attempt to contact the target MS to determine the location of the target MS, in response to receiving the request." Is disclosed by Fitch as "In order to obtain a location measurement, it is generally necessary to cause the wireless station to transmit an RF signal for detection by the LFE (202, 204, 206)..... In response a system access signal is transmitted by the wireless station and detected by the LFE (202, 204, 208). The LFE (202, 204, 206) then transmits Location Measurement Information to the LFC." (see col. 11, line 67 - col. 12, line 17) which reads directly on this portion of the claim.

Regarding **Claim 19**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 16), in addition Fitch further discloses the reporting device (202, 204, 206) of claim 16, wherein:

"the reporting device (202, 204, 206) is a mobile wireless device similar to the target MS" as disclosed by Fitch "Some types of LFEs (202, 204, 206) include LFE equipment in the handset. Examples include certain GPS and TDOA systems. In such cases, location information may be encoded into signals transmitted from the handset to a cell site or other receiver" (see col. 5, lines 29-33) which reads directly on the claim.

Regarding **Claim 20**, the combination of Fitch and Walsh discloses every limitation claimed, as applied above (see claim 16), in addition Fitch further discloses the reporting device (202, 204, 206) of claim 16, wherein:

"the reporting device (202, 204, 206) is a fixed wired device" as disclosed by Fitch "Other LFE (202, 204, 206) systems, i.e., embedded systems use equipment associated with individual cell sites such as specialized antennae to make location determinations.....Still other LFE (202, 204, 206) systems employ a network of dedicated LFE equipment that is overlayed relative to the wireless network." (see col. 5, lines 35-42) directly reads on the claim.

Response to Arguments

2. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (703) 305-8636. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WJD,JR/wjd,jr
22 July 2004

CHARLES APPIAH
PRIMARY EXAMINER